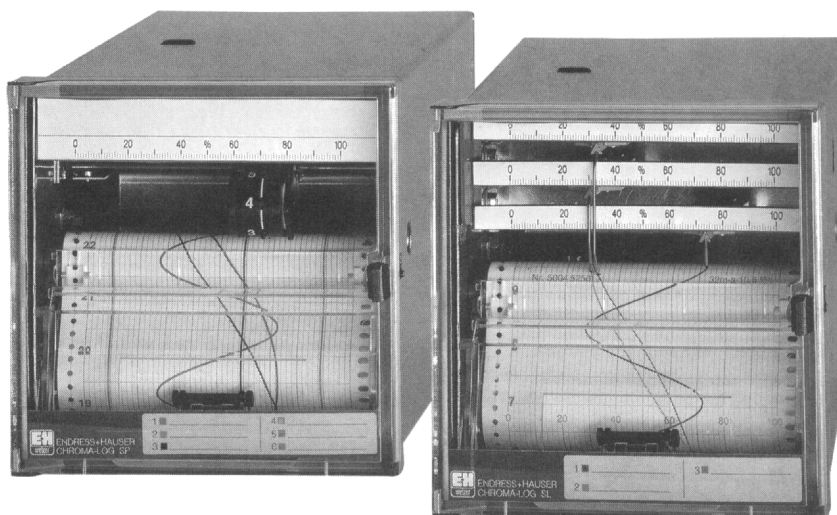


Color Recorder *chroma-log sl* *chroma-log sp*

**Economical continuous line strip chart and dotting
recorders with 1 – 6 analog inputs**



Applications

Chroma-log recorders are used:

- in OEM applications
- for local information
- centrally located in a control panel
- where analog values must be recorded
- where up to six channels need to be plotted on chart paper
- sl recorders allow measurements of fast changing measured values
- sp recorders are used where slow changing analog values must be recorded

Features

- User selectable measurement range, and zero and span
- compact 144 x 144 DIN size
- combination cassette for both roll chart and z-fold paper
- stepper motor drive for reliable paper feed
- recording inputs: current, voltage, or temperature
- paper feed rate easily adjustable using selector switch
- pens (sl models) and printhead (sp models) are easy to change

Endress + Hauser

Nothing beats know-how



Models

Chroma-Log Recorders at a Glance

Type	Number of Channels	Recording Style	Recording Principle
Chroma-Log sl	1, 2, or 3	Continuous line strip chart recorder	Fast compensation system with ribbed drive belt. Plot via easily changed colored pen
Chroma-Log sp	6	Dotting recorder	Exchangeable six-chamber color print wheel

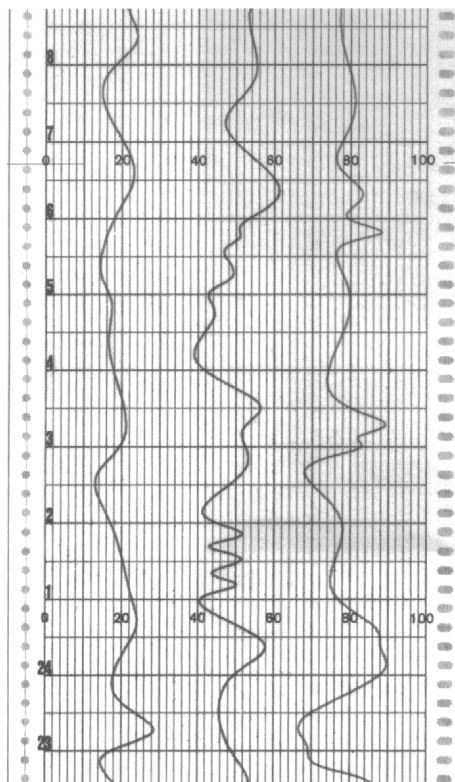
Function

Chroma-Log sl

- continuous-line record using a compensation system with a ribbed drive belt
- fast pen response to input changes using a high torque motor
- accurate pen positioning for precise recording using a linear conductive feedback system
- easy to upgrade number of input channels due to modular recorder construction
- easy application due to exchangeable channel modules for standard or Pt100 inputs

Chroma-Log sp

- change controlled recording (input signal change or paper movement) and channel ON/OFF selection increase the life span of both the print wheel as well as the recorder
- print wheel color sequence using state-of-the-art optical monitoring giving total reliability
- selectable measurement ranges, paper feed rates, and dot ranges allow for easy on-site configuration



Strip chart example for Chroma-Log sl. The timed sequences of 1 to 3 measurement points are documented as continuous colored lines on 120 mm wide normal paper.

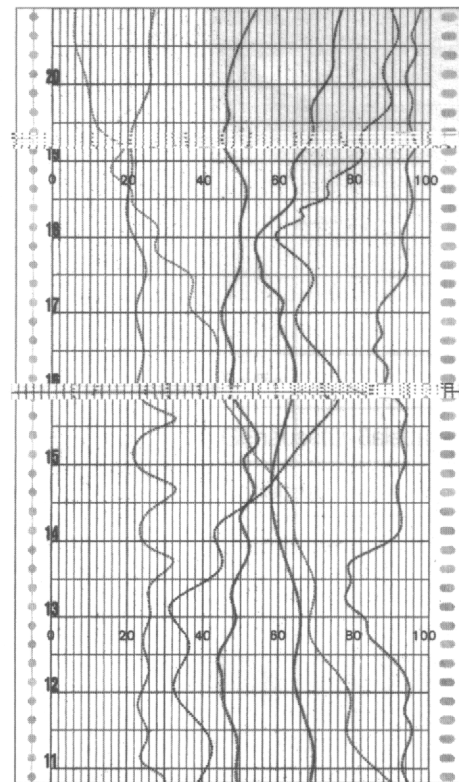
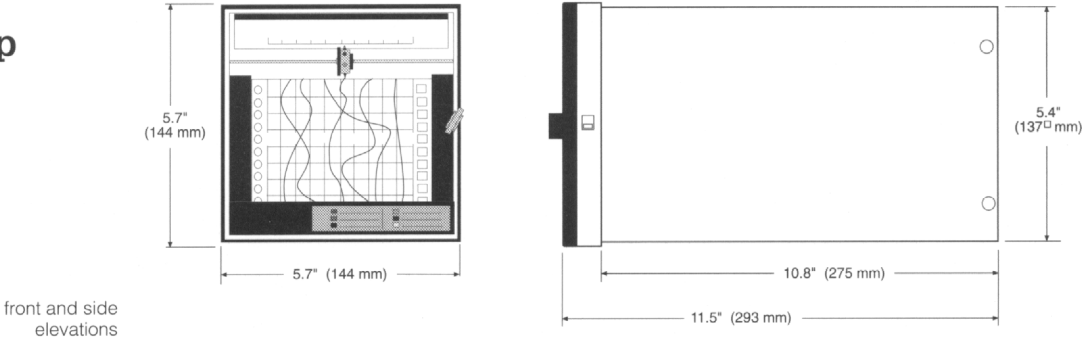


Chart example for Chroma-Log sp. The timed sequences of 1 to 6 measurement points are documented as colored dotted lines on 120 mm wide paper.

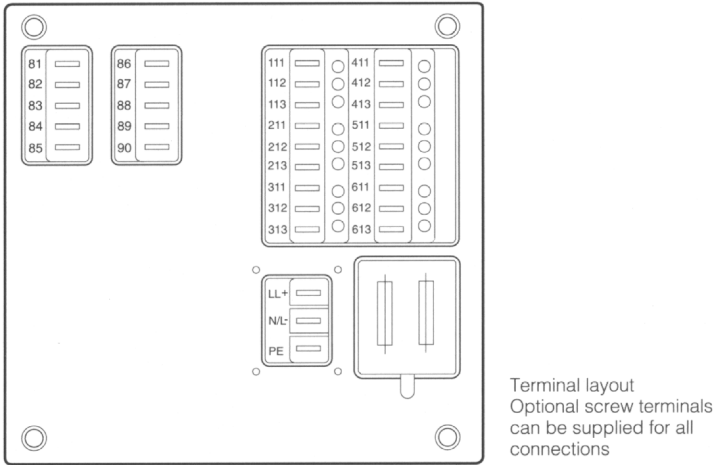
Dimensions

Chroma-Log sl/sp



Terminal Layout

Chroma-Log sl/sp



	Terminal identification	Power supply 24/115/230 VAC	Power supply 24 VDC	
	L/L+ N/L- PE	L N Ground	+24 VDC GND (24 VDC) Ground	
Chroma-Log sl/sp	Terminal identification	Channel number	Standard (loop)	Pt100 input
	111 112 113	Channel 1 Channel 1 Channel 1	+ input - input + loop 24 V DC*	Pt100 Pt100 Sense
	211 212 213	Channel 2 Channel 2 Channel 2	+ input - input + loop 24 V DC*	Pt100 Pt100 Sense
	311 312 313	Channel 3 Channel 3 Channel 3	+ input - input + loop 24 V DC*	Pt100 Pt100 Sense
Chroma-Log sp	411 412 413	Channel 4 Channel 4 Channel 4	+ input - input not used	Pt100 Pt100 Sense
	511 512 513	Channel 5 Channel 5 Channel 5	+ input - input not used	Pt100 Pt100 Sense
	611 612 613	Channel 6 Channel 6 Channel 6	+ input - input not used	Pt100 Pt100 Sense
	81-90	Not used		

* Not used in Chroma-Log sp models (optional).

Specifications

Chroma-Log sl/sp

Measurement range:
(State on order, valid for all channels)

Standard	Pt100 Version
0...20 mA	32...212°F (0...100°C)
4...20 mA using a shunt	32...392°F (0...200°C)
0...1 V	32...572°F (0...300°C)
0.2...1 V	32...752°F (0...400°C)
0...10 V	-58...212°F (-50...100°C)
2...10 V	-4...176°F (-20...80°C)
	-40...140°F (-40...60°C)

Shunt impedance:

50 Ohm for current input
1 MOhm for voltage input

Accuracy:

Reference conditions (if not otherwise stated)
are to IEC 65 B (co) 40: Temperature: 68°F (20°C);
Air pressure: 12.5 – 15.4 psi; RH: 65%
≤ 0.5% of full scale
≤ 0.2% of full scale
≤ 0.1% of full scale
≤ 0.1% of full scale/10K
(Pt100, ≤ 0.1% of full scale/10K)

Base Accuracy
Long Term Drift
Power Up Drift
Temperature Drift

Dead band:

≤ 0.25%

Operating conditions:

Ambient temperature
Storage temperature

32...122°F (0...50°C) noncondensing
-4...158°F (-20...70°C)

EMI:

Elect. fast transient (burst)
Electrostatic discharge
Electromagnetic fields

No substantial functional interference due to:
Level 3 (IEC 801-4)
Level 3 (IEC 801-2)
Level 2 (IEC 801-3)

Normal mode noise rejection:

30 dB at input range/10 (50 Hz)

Common mode noise rejection:

≤ 0.1% measurement span at 250 V/50 Hz

Power failure:

No functional loss on power loss for up to 20 ms

Isolation:

Channel to channel 250 V

Scales:

Chroma-Log sl
Chroma-Log sp

User replaceable adhesive scale per channel
One or two (optional) replaceable adhesive scales

Recording system:

Chroma-Log sl

Fast compensation system with ribbed drive belt. Plot via an easily changed colored pen.
(Pen capacity at reference conditions for approx. 1500 m at 20 mm/h, channel 1: blue; channel 2: red; channel 3: green.

Recording system:

Chroma-Log sp

Exchangeable 6 chamber color print wheel
channel 1: violet; channel 2: red; channel 3: black; channel 4: green; channel 5: blue; channel 6: brown.

Paper feed rate:

Adjustable via selector switch

Presetable to: 0, 10, 20, 60, 120, 300, 600, 1200 mm/hr

Paper type:

Selectable roll chart approx. 32 m or Z-fold approx. 16 m

Supply ranges:

AC: 115, 230, (50/60 Hz +10/-15%)
DC: 24 V ±20%

Primary fuse:

Chroma-Log sl

630 mA slow blow (115 V power supply)
315 mA slow blow (230 V power supply)
1.0 A slow blow (24 V DC power supply)

Primary fuse:

Chroma-Log sp

160 mA slow blow (115 V power supply)
80 mA slow blow (230 V power supply)
1.0 A slow blow (24 V DC power supply)

Housing:

144 x 144 mm stainless steel for panel mounting

Front door:

Selectable with latch or lock (optional)

Protection class:

NEMA 12

Electrical class:

General Purpose

Operational angle:

90° ± 10° without limitation
90° ± 30° with limitation on recording

Installation depth:

275 mm

Connections:

Spade connectors 6.3 x 0.8 mm or 2.8 x 0.8 mm
(Optional plug on screw terminals)

Panel cutout:

139 x 139 mm

Panel mounting:

Using supplied hardware

Order Code Chroma-Log sl

RSL

1	2	3	4	5	6	7	8	9	10	11	12
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- 1 **POWER SUPPLY**
H 230 V AC 50/60 Hz
F 115 V AC 50/60 Hz
E 24 V DC $\pm 20\%$
- 2 **MODEL**
F 144 x 144 mm panel mounting
G Desktop with rubber feet and power cord
H Portable laboratory housing
L Wall-mounted console
- 3 **FRONT DOOR**
1 Door with latch
2 Door with lock
3 Door with latch with paper (only roll paper)
4 Door with lock with paper outlet (only roll paper)
- 4 **PAPER CASSETTE**
A Cassette for continuous-roll paper (32 m)
B Cassette for Z-fold paper (16 m)
- 5 **NUMBER OF ANALOG INPUTS (Connection, see input channels)**
1 1 channel
2 2 channels
3 3 channels
- 6 **INPUT CHANNEL 1**
B 0-1/10 V, 0/4-20 mA, presettable
C 0-1/10 V, 0/4-20 mA, 24 V DC loop-powered
D Pt100, range 32...212°F (0...100°C)
E Pt100, range 32...392°F (0...200°C)
F Pt100, range 32...572°F (0...300°C)
G Pt100, range 32...752°F (0...400°C)
H Pt100, range -58...212°F (-50...100°C)
I Pt100, range -4...176°F (-20...80°C)
K Pt100, range -40...140°F (-40...60°C)
Y Special range
- 7 **INPUT CHANNEL 2**
A Without (only one-channel units)
– Ranges and Order Codes B – Y are the same as channel 1
- 8 **INPUT CHANNEL 3**
A Without (only one- or two-channel units)
– Ranges and Order Codes B – Y are the same as channel 1
- 9 **SCALE CHANNEL 1**
2 Special scale as specified on Channel 1
1 Version accessory to scale sheet (Channel 1)
- 10 **SCALE CHANNEL 2**
2 Special scale as specified on Channel 2
0 Without (one-channel unit)
1 Version accessory to scale sheet (Channel 2)
- 11 **SCALE CHANNEL 3**
2 Special scale as specified on Channel 3
0 Without (one-channel unit)
1 Version accessory to scale sheet (Channel 3)
- 12 **LANGUAGE**
A Without manual
E English Manual
G Identification by specific company logo

Order Code Chroma-Log sp

CHROSP

1	2	3	4	5	6	7
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- 1 **POWER SUPPLY**
 - H 230 V AC 50/60 Hz
 - F 115 V AC 50/60 Hz
 - E 24 V DC $\pm 20\%$
 - Y Special Version
- 2 **MODEL**
 - F 144 x 144 mm panel mounting
 - G Desktop with rubber feet and power cord
 - H Portable laboratory housing
 - L Wall-mounted console
- 3 **FRONT DOOR**
 - 1 Door with latch
 - 2 Door with lock
 - 3 Door with latch with paper (only roll paper)
 - 4 Door with lock with paper outlet (only roll paper)
- 4 **PAPER CASSETTE**
 - A Cassette for continuous-roll paper (32 m)
 - B Cassette for Z-fold paper (16 m)
- 5 **INPUT CHANNEL 1 to 6**
 - B 0-1/10 V, 0/4-20 mA, presettable
 - D Pt100, range 32...212°F (0...100°C)
 - E Pt100, range 32...392°F (0...200°C)
 - F Pt100, range 32...572°F (0...300°C)
 - G Pt100, range 32...752°F (0...400°C)
 - H Pt100, range -58...212°F (-50...100°C)
 - I Pt100, range -4...176°F (-20...80°C)
 - K Pt100, range -40...140°F (-40...60°C)
 - Y Special range
- 6 **SCALE**
 - 1 One scale (version as per scale sheet)
 - 2 Two scales (version as per scale sheet)
 - Y Special version
- 7 **LANGUAGE**
 - A Without manual
 - E English Manual
 - G Identification by specific company logo

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